

Summary of Second Round Comments on the Proposed 2006 ENERGY STAR New Homes Program September 26 2005

I. Overview

In response to significant changes in residential energy codes and standards, EPA proposed a new set of guidelines for ENERGY STAR for Homes in February 2005. EPA initially solicited comments on the guidelines from interested parties from March – April 30, 2005. Based on the feedback received, a revised set of guidelines were posted on EPA's Web site on August 1, 2005. Interested parties were invited to submit comments on the revised documents through August 19, 2005.

EPA received 51 formal comments, representing the views of over 100 organizations (some comments received represented multiple organizations, but the individual organizations were not always identified). These included 10 builders and builder trade associations, 22 HERS Providers and certified raters, 4 utilities and state energy offices, 2 regional and national energy efficiency organizations, and 13 other stakeholders.

In general, the comments reflected a need for EPA to fine-tune and clarify the guidelines. This document provides a summary of the general themes and common concerns found in the comments received, as well as EPA's response in each area. Although all specific technical comments are not covered in this document, EPA has reviewed these comments and incorporated the feedback in the revised specification, where appropriate. All of the comments submitted to EPA can be viewed on the ENERGY STAR Web site (at www.energystar.gov/homes/comments)

Comments submitted to EPA fell into the following general categories:

- Implementation Timeline
- Heating and Cooling
 - Product Availability / Cost
 - Equipment Sizing
 - Thermostats
- Duct Systems
- Windows
- Lighting and Other Labeled Products
- Water Heaters
- Thermal Bypass Checklist
- Manufactured Housing

Based on the comments received, EPA has developed its final ENERGY STAR New Homes Guidelines. These guidelines are posted at www.energystar.gov/homes.

II. Summary of Comments and EPA Response

Implementation Timeline

EPA received 24 comments on the implementation timeline. These responses included comments from 7 builders and builder trade associations, 11 HERS Providers and certified raters, 2 utility and state energy offices, 3 regional and national energy efficiency organizations, and 1 other stakeholder.

In general, commenters sought clarification on the transition date and requested additional time to implement the new guidelines. Commenters were also concerned about the timeliness of getting information on 14 SEER air conditioning equipment availability and pricing from HVAC manufacturers.

EPA Response: Based on the comments received, EPA has revised the implementation timeline in the final guidelines as follows:

- ***Upon EPA issuing the final new guidelines (September 30, 2005), all homes must be qualified to earn the ENERGY STAR using the new guidelines, unless they are:***
 - ***Enrolled in a utility or state-based efficiency program by December 31, 2005, OR***
 - ***Permitted by July 1, 2006.***
- ***Homes meeting these conditions can continue to be labeled with existing guidelines. However, all homes that earn the ENERGY STAR label on or after January 1, 2007 must use the new guidelines.***

Note that the upcoming change in NAECA Standards (increasing the minimum SEER from 10 to 13) will have implications for HERS scores regardless of EPA's roll out of the new guidelines. This is because builders currently achieving energy savings from installing air conditioners that exceed 10 SEER will only be able to realize energy savings when exceeding 13 SEER. Builders should work with their HERS rater to identify energy efficiency improvements needed to achieve the HERS 86 and 15% savings above state energy code when qualifying homes as ENERGY STAR during the grandfathered period of switching to the new guidelines.

Heating and Cooling Systems

EPA received 25 comments on heating and cooling systems. These responses included comments from 3 builders and builder trade associations, 7 HERS Providers and certified raters, 1 utility, 2 regional and national energy efficiency organizations, and 5 other stakeholders.

Commenters continue to be concerned about the availability and pricing of 14 SEER air conditioning equipment. Commenters expressed that this information was vital for builders to make decisions on building ENERGY STAR qualified homes in 2006.

Additional comments included:

- Right-sizing requirements need to be more clearly defined, as does guidance on calculating and verifying proper sizing; and
- Recommendations that the adaptive recovery thermostat requirement for homes with heat pumps be removed.

EPA Response: EPA believes that the new implementation timeline (described above) will provide industry with sufficient time to make decisions about using 14 SEER air conditioners. In addition, builders can continue to qualify homes with 13 SEER air conditioners using the performance path.

To address concerns about right-sizing requirements, EPA's final guidelines specify that only cooling equipment needs to be sized according to ACCA Manuals J and S (8th Edition), ASHRAE 2001 Handbook of Fundamentals, or an equivalent computation procedure. In addition, the final guidelines provide additional guidance on verifying right sizing and acceptable equipment oversizing limits.

EPA continues to believe that adaptive recovery thermostats are an important for maintaining comfort and energy efficiency in homes with heat pumps. Therefore, adaptive recovery thermostats will continue to be required in homes with heat pumps.

Duct Systems

EPA received 31 comments on duct systems. These responses included comments from 1 builder, 17 HERS Providers and certified raters, 3 utilities and state energy offices, and 3 regional and national energy efficiency organizations.

Commenters were generally supportive of EPA setting maximum duct leakage and insulation requirements; however, a number of concerns remained, including:

- The 6 cfm per 100 sq. ft. duct leakage cap in the performance path is too stringent;
- Total duct system leakage requirements should be removed; and
- R-8 duct insulation may be challenging due to product availability, cost, and installation challenges.

EPA Response: EPA believes that duct leakage of 6 cfm per 100 sq. ft. is an achievable target for ENERGY STAR builder partners. As a result, this requirement is maintained in the final performance guidelines. However, based on comments received, EPA has removed the total duct leakage requirement in both the final performance and prescriptive guidelines.

In response to concerns about requiring R-8 duct insulation, EPA has revised this requirement in the final guideline to be a minimum of R-6.

ENERGY STAR Qualified Windows

EPA received 15 comments on windows. These responses included comments from 1 builder, 5 HERS Providers and certified raters, 4 regional and national energy efficiency organizations, and 5 other stakeholders.

Several commenters recommended allowances for non-ENERGY STAR qualified windows that met or exceeded the ENERGY STAR specifications. Commenters also wanted clarification on addressing decorative glass. In addition, commenters questioned why in the prescriptive path the window characteristics became more stringent at 21% window to floor area (WFA), rather than at 18% WFA.

EPA Response: EPA agrees with the recommendation of allowing windows that meet or exceed the ENERGY STAR windows' specifications and this change has been incorporated into the final guidelines. EPA has provided additional guidance on addressing decorative glass in the final guidelines; and the allowable amount of decorative windows in the prescriptive path has been increased from 0.5% to 0.75% WFA. EPA also agrees with commenters that 18% WFA is a more appropriate threshold for increasing the window performance requirements and this change is reflected in the final guidelines.

Lighting and Other Labeled Products

EPA received 22 comments on lighting and other labeled products. These responses included comments from 1 builder trade association, 5 HERS Providers and certified raters, 2 regional and national energy efficiency organizations, and 9 other stakeholders.

Several commenters reiterated recommendations that all energy efficient lighting, including CFLs, should count towards qualifying homes as ENERGY STAR. In addition, there were concerns about basing the CFL score credit limit on a fixed number would result in a misalignment of ENERGY STAR with the HERS rating methodology and rating tools, which will be based on the percent of fixtures in a home.

EPA Response: EPA believes that requiring builders to include some level of ENERGY STAR qualified products in homes that earn the label is an important first step towards raising their awareness to the availability of such products and to increase consumer awareness of the brand.

The prescriptive path requires that a combination of five or more ENERGY STAR qualified lighting fixtures, appliances, ceiling fans equipped with lighting fixtures, and/or ventilation fans be included in qualified homes. EPA believes that this requirement sufficiently meets the goal of raising builder awareness of other ENERGY STAR qualified products. Once the minimum requirements of the prescriptive path are met, builders are encouraged to make additional energy efficiency improvements, (e.g., installing screw-based CFLs, or additional qualified lighting fixtures, fans, and appliances).

Builders can meet the requirements of the performance path by including one of the following: (1) ENERGY STAR qualified heating or cooling equipment, (2) ENERGY STAR windows, or (3) a combination of five or more ENERGY STAR qualified lighting fixtures, appliances, ceiling fans equipped with lighting fixtures, and/or ventilation fans.

Due to concerns about the persistence of CFLs, EPA is maintaining the ENERGY STAR Scoring Exception, but changing it from a fixed number to a percent (i.e., a maximum of 20% of all screw-in CFLs may count towards qualifying homes as ENERGY STAR).

Water Heaters

EPA received 12 comments on water heaters. These responses included comments from 1 builder, 3 HERS Providers and certified raters, 3 regional and national energy efficiency organizations, and 2 other stakeholders.

Commenters expressed the following concerns and/or recommendations regarding water heating requirements:

- Recommendations that water heater specifications be removed from the performance path.
- The energy factor (EF) requirements specified in the prescriptive path are either too stringent or not stringent enough;
- Concern that the required EF levels are not available on certain gas water heater tank sizes – specifically for short tanks, which are fairly common in some markets;
- Direct-vent/sealed combustion or power-vented water heaters should be required to provide greater assurance of combustion safety; and

EPA Response: EPA has removed energy efficiency requirements for water heaters in the performance path final guidelines, but continues to believe that it is important to address water heaters within the prescriptive path. As a result, the BOP specifies energy factor requirements at slightly better than the minimum NAECA standard efficiency.

With regards to product availability, EPA has confirmed that short tank hot water heaters with the required EF may not be available in all markets. In these situations, homes can be qualified through using the performance path, which does not specify a minimum water heater efficiency level.

EPA has chosen to address non-spillage water heaters through the new ENERGY STAR Indoor Air Package label that compliments ENERGY STAR qualified homes. In addition, EPA supports the efforts of numerous regional programs that have elected to require power/direct-vented equipment as part of their program design. Such modifications that increase the rigor of the national ENERGY STAR specifications continue to be permissible under the new guidelines. EPA will also consider requiring power/direct-vented water heaters in future program enhancements.

Thermal Bypass Checklist

EPA received 22 comments on the Thermal Bypass Checklist. These responses included comments from 2 builders, 13 HERS Providers and certified raters, 1 utility, 1 regional energy efficiency organization, and 3 other stakeholders.

A majority of commenters continued to be supportive of the Thermal Bypass Checklist, but several concerns remained. Several commenters provided specific suggestions and edits on the language in the checklist, and others sought clarification of certain items. Specific comments included:

- Clarification on who can be responsible for ensuring compliance with the Checklist; and
- Clarification on how the Checklist will affect sampling.

EPA Response: EPA's final guidelines maintain the Checklist as an additional requirement in both the prescriptive- and performance-based paths.

Clarifying language was added to the final Checklist, including the following language on responsibility for ensuring compliance with the Checklist and how the Checklist will be applied when sampling is used for qualifying homes as ENERGY STAR:

- ***"In the event an item on the Checklist cannot be verified by the rater, the home cannot be qualified as ENERGY STAR, unless the builder assumes responsibility for verifying, under the direction and oversight of the Provider, that the item has met the requirements of the Checklist. This option is available at the discretion of the Provider or rater but may not be used to verify more than four (4) items on the Inspection Checklist. This responsibility will be formally acknowledged by the builder signing-off on the Checklist for the item(s) that they verified."***
- ***"The Checklist may be completed for a batch of homes using a RESNET-approved sampling protocol when qualifying homes as ENERGY STAR. For example, if the approved sampling protocol requires rating one in seven homes, then the Checklist will be completed for the one home which was rated."***

Two additional areas of inspection were added also to the Checklist based on comments received: 1) Porch Roof, where the porch roof and exterior wall intersect; and 2) Common Walls Between Dwelling Units.

Manufactured Housing

EPA received 6 comments on manufactured housing. These responses included comments from 1 builder trade association, 1 utility, and 4 regional and national energy efficiency organizations.

Commenters expressed concern that manufactured housing has not been addressed in the new guidelines for ENERGY STAR qualified homes. Commenters felt that this would create inequity between site built and manufactured housing, reduce the savings captured by the ENERGY STAR for New Homes program, and could lead to brand confusion.

EPA Response: The current ENERGY STAR for Homes threshold for manufactured homes typically represents a much bigger increase above code than for site-built homes, and EPA believes that it is not appropriate to update the guidelines for manufactured homes at this time (additional rationale is provided below). However, EPA will be responsive to recent decisions on the applicability of the new 13 SEER NAECA standard to manufactured housing by making adjustments to the prescriptive package for manufactured homes accordingly.

Factors that EPA considered in deciding not to update the guidelines for manufactured homes included:

- Although approximately 100 HUD-Code plants have been ENERGY STAR certified, actual labeling of homes remains extremely low, except for homes coming from already established programs which were converted to ENERGY STAR, e.g., the Super Good Cents/Natural Choice program in Pacific Northwest (PNW). Changing ENERGY STAR requirements for these plants could undermine the industry's ability to leverage the substantial investment already made before any meaningful progress towards market transformation.***
- Success of PNW program is attributed to a substantial utility rebate program that funded the full incremental cost of energy efficient HUD-code homes for several years. The critical impact of these rebates was a high retention rate (approximately 60%) after termination of the rebate.***
- Without similar rebate, market penetration for ENERGY STAR qualified homes remains less than 1% for the rest of the country (e.g., compared to ~10% for site-built homes). EPA believes that the current threshold for ENERGY STAR for manufactured homes needs to be more broadly established before requirements can be increased.***
- A meaningful financial incentive will be needed to engage manufactured home retailers, who are critical to labeling homes. The recently passed energy efficiency tax credit bill provides a national rebate similar to what was instrumental to the success of the PNW market. This represents a substantial opportunity to establish ENERGY STAR for homes in the manufactured housing sector over the next two years.***

EPA will work with manufactured housing sector stakeholders to move towards alignment of the ENERGY STAR threshold for manufactured housing with site-built housing once the current threshold is well-established (e.g., 10% of market penetration similar to site-built homes).